



THE Macdonald Farm Journal

VOLUME 14 No. 5

JANUARY 1954

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The Changing Farm

Winter is a time to look back upon the year's work. It gives us a chance to study our operations. Why did we do this? What made us do that? If we are not satisfied with the results we can make a mental note to plan more efficiently for the coming year.

If we are going to improve our farm operations we need to study our past work and analyze our mistakes for this is the only way we can hope to achieve a measure of improvement.

The farm picture is changing rapidly. We are becoming more dependent upon the market, not only for the things we sell, but also for the things we buy. The number of farm tractors and other items of mechanical equipment on our farms increases yearly. This means we must buy more grease, more oil, more tools to adjust and overhaul these machines.

We buy refrigerators, home freezers, sewing machines and a host of other gadgets to lighten the work in our homes, and we go into the market for them all. We must sell in order to buy. The self-sufficient farm has gone the way of the horse and buggy.

Most of us are happy about these changes, let's make no mistake on that point. It is only because we have become more dependent that we have been able to acquire and enjoy some of the material benefits of civilization.

This trend away from self-sufficiency has forced us to become more efficient operators in order to survive. It has put a premium on good management. It has made us realize that yields per acre and

returns per man are vitally important. It has forced upon us the realization that we must use more lime and fertilizer; more tested seed for greater crop production while at the same time keeping an eye on our soil and water resources as good conversationists should. Here again we see the good that is coming from this greater dependence upon the market. We are being forced by the pressure of events to use our land wisely. We are being forced into becoming better farmers.

We cannot solve all our problems, however, merely by improving our farming methods. We need to go a step farther and look to the marketing of our products. It is of little use producing unless we have a market. Witness the recent hog fiasco; the packers have not lost on the deal, it is we farmers who stand the loss, therefore, we must begin right now to think about possible solutions to this and the other problems which are besetting us.

Dependence upon the market is forcing us to think about our problems as never before. We are beginning to realize that what happens on the national and world scene will sooner or later affect our lives. We are becoming good citizens of a democracy. We are thinking about the problems confronting us.

Our Cover Picture

The Morgan Arboretum at Macdonald College, which is the last extensive area of preserved woodland on the Island of Montreal, is used in part for studies on practical woodlot management. Our photograph shows some of last winter's harvest.

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Knowlbrook Farm — A Story In Grass

by Colin Muirhead

Some areas of Quebec are suited only to grass, and Brome County is one of them. This article tells how one farmer went to grass to build up his farm productivity.

KNOWLBROOK Farm is situated in the pleasant little town of Knowlton, and like plenty of other Brome County farms, its lower reaches are forever wet and the rest of it climbs a steep hillside. There is not much room for plowing on its 137 acres; 17 acres are seeded to oats, with rye and millet used for cover crops. Grass is the main crop, for only grass will give a sure crop and hold the soil on the steep hillside.

Mr. Timmins is what we know as a gentleman farmer, for he works in Montreal, but he's not the usual sort of gentleman farmer by a long shot. He's studied agriculture at Macdonald College, and his farm manager, Rudy Dallenbach, is a graduate of the Diploma course, Class of '51.

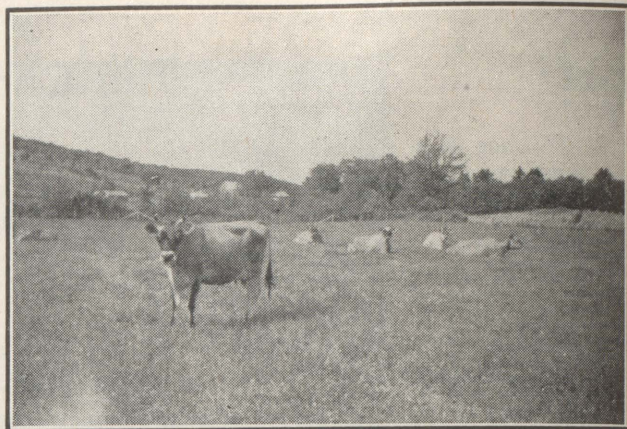
Why did we visit the farm at all? We feel this question needs answering because we can hear many farmers say, "we could all do the things they've done with their money." Well it's our firm conviction that *any* farmer, whatever the size of his pocketbook, could do what Rudy Dallenbach and Mr. Timmins have done and are doing at Knowlbrook Farm. It might take longer, but the end result would be just the same.

Before we see what's being done, let's take a look at Rudy, it may help us understand better why he is doing what he is. Rudy Dallenbach and his wife came to Canada from Switzerland in 1948. Now Switzerland, like much of Brome County, is built like a roller coaster—all up and down. Rudy was brought up to think in terms of grass, while we, in our more favored country, are only just beginning to see the worth of grass farming. In Switzerland they've always been grass conscious; they had to be unless they wanted to see their soil slide down into the river valleys and end up in France and Austria and all the other surrounding countries.

When he came to Knowlbrook Farm and saw the clumps of "hardhack," the scrub trees growing all over, it offered a challenge to his ideas, and with Mr. Timmins' enthusiastic support, for he has definite ideas on this subject himself, he outlined a plan of pasture improvement which would set the farm on its feet and make it pay for itself.

Keep the Cows Milking

Right now the farm carries a herd of 42 registered purebred Jerseys, 16 milking and sired by Paintree Spotlight Model, a bull which was Reserve Grand Champion



Here's part of the Jersey herd on Knowlbrook Farm.

at the Royal Winter Fair. Rudy plans to increase the size of the milking herd, but without good feed no herd will give of its best, so the pasture program comes first.

"It's important that the young stock on a farm get all the good feed they can eat," Rudy told me. "Unless a cow develops capacity as a heifer," he went on, "she won't eat enough as a mature animal to give plenty of milk. We have examples of this right here," he said, "some of our cows are eating all the time, and it shows in their milk production. They were brought up to eat and they have retained that habit as they got older, while others don't put away anything like the same amount of feed and it shows in their milk records."

"What do some of your cows give?" we asked Rudy. "We have 10 Jerseys which give over 10,000 pounds of milk," he said, "and they're all testing over 5 percent. Some test as high as 6.5 percent. One of our cows," he told me, "has given over 2,000 pounds of butterfat in four consecutive lactations, and we have a second one heading for the same record. Our lower testing cows," he concluded, "give around 12,000 pounds of milk."

Rudy said that their pastures and grass silage were mainly responsible for this. In addition to grass they feed grain throughout the year. For every four pounds of milk a cow gives over 35 pounds they get one pound of grain, and all other stock get two pounds per day.

"It's vitally important," Rudy emphasised, "to keep the cows milking. If necessary I'll sacrifice the second cut to do just that. If a cow's milk flow falls off," he said, "it's one of the world's toughest jobs to bring it back up again, therefore, the obvious thing to do is to keep it up, and that means push the feed to them at all times."

Watch the Pasture

Now let's take a look at the pasture program. There

are two fields of three acres each, and one of four and one-half acres. Two of these sections were seeded in 1949, the other in 1950 with a mixture of timothy, white clover and ladino. They are to be left down for seven years and then broken up and seeded down with 10 pounds of brome grass, 5 pounds of birdsfoot trefoil and 2 pounds of ladino. A creek flows alongside each of these fields which makes them ideal for pasture.

In periods of lush pasture, a portable electric fence is used so that the cattle graze only the amount of pasture they can eat in a day. In this way they don't trample all over and the grass is kept well clipped. When I was there the cattle were on a 3 acre stretch, but the grass was still lush and green—plenty of good feed.

These pastures are top dressed every Fall with manure plus 400 pounds of 0-16-8, with 80 pounds of ammonia sulfate applied in the Spring after the first pasture by the cows. This part of the program Rudy thinks is vital to keeping the pastures in good shape well into the late summer when they would normally "brown off." There was certainly no sign of this during my visit.

Across the creek from the pastures there is a swampy section which was not good for anything until Rudy seeded it to reed canary grass plus some red clover in the drier parts. He gets a good crop off it every year, but doesn't really like reed canary grass, "It's too coarse to make really good ensilage," he says, "but it's all we can grow in this spot."

He starts feeding his grass silage to the herd around September 15, but only in small amounts, increasing gradually as he takes them off the pasture a little longer each day. This too he claims helps to keep the milk flow up.

Higher up the hillside is a section he first cuts for silage and then pastures. It's really stony and receives a lot of water from land lying across the road which Mr. Timmins doesn't own, so he seeded birdsfoot trefoil at 5 pounds per acre with brome grass and clover. "Sure, birdsfoot trefoil is slow starting," he told me, "but you can pasture it early and let the cattle pasture it right down, and it's good for a lot more years than many other grasses. In fact," he said, "the more it's pastured the better it grows." He uses only the broad-leaved Empire variety.

"The first day I turned the cattle on the birdsfoot," he told me, "they just walked around and nibbled at it. Maybe it has a different flavor, I don't know. I got to thinking that I might have to take them out, but the second day they went right at it and have eaten it well since."

Good Silage is High Protein Silage

In the other silage and hay fields he uses ladino, red clover and alfalfa. The latter killed out somewhat and he won't use it again. "How much silage do you figure you get per acre?" we asked him. "We harvested 10



High quality hay helps keep the winter milk flow up.

to 11 tons on the first cut and 7 to 8 tons on the second. Last year," he went on, "on a dry protein basis our silage tested 19.2 percent." That means 17 to 19 tons per acre, a really heavy crop.

"All the cattle are taken off the clover on September 20," he said, "this gives the clover chance to establish itself before winter gets here. We figure it pays," he concluded, "for there is less winter killing."

In the barn the cattle are fed grass silage three times per day until Christmas and twice per day afterwards with all the hay they can eat at all times.

And that is the story of Knowlbrook Farm and Rudy Dallenbach. Sure, he's taken on a big job, but it was a challenge he was willing to accept because it tested all the knowledge he has gained in Switzerland and Canada, and Mr. Timmins is backing him up all the way and adding ideas of his own.

It certainly shows what good farm management can do to improve farming in Brome County, and furthers our conviction, stated earlier in this article, that what has been done here can be done, on a smaller scale, on every farm not only in Brome, but in Quebec province.

Sales of Fluid Milk and Cream Higher

Sales of fluid milk and cream were moderately higher in September than in the corresponding month last year. All-Canada total of fluid milk sales was up 4 percent both in September and the January-September period this year over last year's totals. Cream sales increased two percent in September and 6 percent in the nine-month period.

Stocks of Creamery Butter Down

Stocks of creamery butter in nine cities of Canada on December 1, amounted to 58,060,000 million pounds as compared 63,762,000 pounds a month earlier and 45,289,000 at the same time last year. Cheddar cheese holdings were 17,550,000 pounds as compared with 18,600,000 pounds on November 1, and 20,418,000 pounds on December 1, 1952.

Silage: Corn or Grass-Legume?

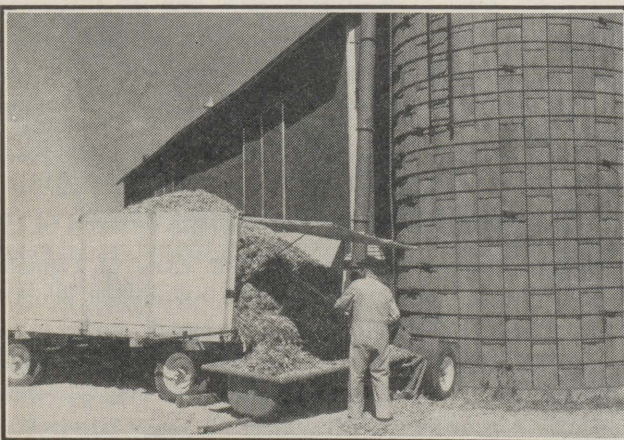


What are you going to grow? Grass or—Corn? Or

Grass holds the soil in place; it helps to build up fertility, and it's a high protein feed. These are some of the reasons why we believe farmers should go to grass. It is especially good on rolling land such as we see in the Eastern Townships; throughout these areas and others like them valuable top soil would be lost if the soil were not held in place with a cover crop.

In spite of these arguments many farmers still grow corn on land that is little suited to it. One of the reasons may be habit. "Corn has always been grown on our farm," it's hard to break this type of tradition. Again some farmers may consider corn a better feed for livestock. Well, word has recently come out of the West Virginia Experiment Station that corn and grass-legume silage are nearly equal, on a dry matter basis, for wintering breeding cows.

The cattle they used in the experiment were divided into two groups. Group 1 was wintered for five years on a ration in which corn silage made up two-thirds of the dry matter. Group 2 was wintered for the same period on a ration in which grass legume silage made up two-thirds of the dry matter. The remainder of their rations was made up of grass-legume hay taken from



maybe both,

the same field from which the grass-legume silage was cut. In addition the cattle grazed on the same pasture during the summer.

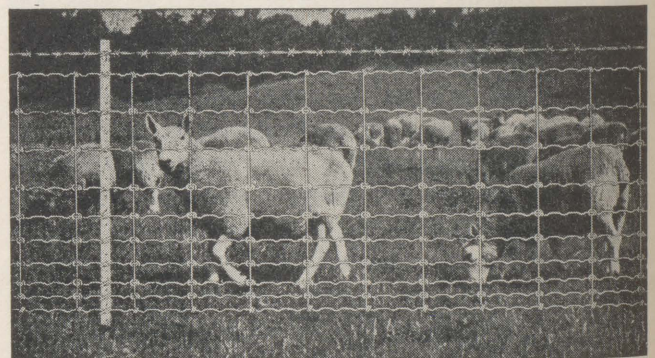
They found that the average winter gain for the corn silage group was 94.2 pounds and for the grass-legume silage group 79.8 pounds. Further they found that the development of the cows during the five year period during which the experiment was carried on was satisfactory and there was no practical difference between the two groups. Group 1, on corn silage, averaged 806.6 pounds in weight at the beginning of the experiment, and 1163.7 pounds at the finish, an average gain of 375.1 pounds. Group 2, on grass-legume silage, averaged 788.9 pounds at the beginning and 1143.2 pounds at the finish, for an average gain of 354.3 pounds. The heifer calves from the grass silage group averaged slightly heavier at birth and also at weaning time. They could offer no satisfactory explanation for this.

The information in this article came to our desk through the publication, "Science Serves Your Farm," a journal published by the West Virginia Agricultural Experiment Station.

Industrial Earnings Up

Earnings in manufacturing averaged a record \$58.30 last year, \$4.12 more than in 1951, \$24.05 more than in 1946.

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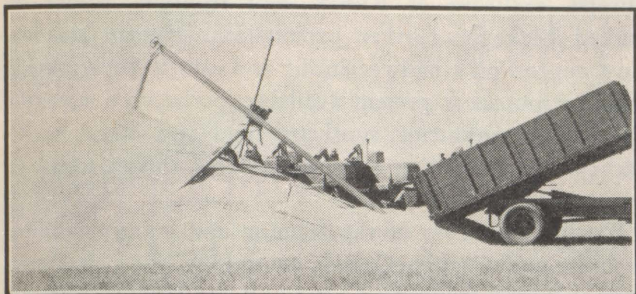
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A World Of Hunger

by P. O. Ripley



Canada is a land of abundance; food for human consumption or—

This is a new year; but it is an old story we're telling here, as old as man himself, and it is spelled in one word—hunger.

INTO this 20th century world every second of every day, two new-born babies look helplessly out upon the light of day. Two babies a second, one hundred and twenty every hour, more than 172,000 every day. Relentlessly, consistently, alarmingly, they add to the more than two billion human beings who already inhabit the earth. Every tick of the clock brings with it a problem child, not in the sense that every child born is wicked or unmanageable, but in a world which is reaching the limit of its production, it is a problem of another mouth to feed, another body to clothe, another human being for whom to provide.

Statisticians tell us that the population of the earth has increased by five times in the last three centuries—doubled in the last century. Few countries numbered their people in earlier days. There were no figures for population before the 17th century. In 1630 the world population was estimated as 400,000,000. By 1830 this figure had doubled. Then came a tremendous expansion in all phases of human endeavour. The sail boat gave place to the steam boat and the stage coach to the railway train. The electric light was discovered. The internal combustion engine came upon the scene. The telephone and wireless transmission of sound was invented. Individuals travelled the globe in their own automobile. Man learned to fly.

Along with this stupendous development in transport and communication, human beings learned to take care of themselves more intelligently. Medical science prolonged the span of human life. Sanitation engineers made living conditions more suitable for humans. Infant mortality was reduced. Men lived longer. Between 1830 and 1900 the world's population again doubled from 800,000,000 to 1,600,000,000. By 1940 it was 2,000,000,000. Human reproduction is a natural phenomenon. It continues at the rate of over 172,000 per day.

Each day the birth rate is increased slightly over the day before because of improvement in child birth and other techniques. The population increases by 64 million each year. Two billion more by the middle of next century. It is nice to have people around. People can be friendly, if they are not too crowded, or hungry or cold or angry or hateful. In this mid twentieth century $2\frac{1}{4}$ billion people inhabit the earth.

The Fruits of the Earth

The earth seems large when viewed from each individual's small habitation. Three-quarters of the earth's surface is covered with water. One-half of the remaining quarter is occupied by mountains, deserts, polar regions, forests and misused land which is unproductive and uninhabitable. It has been estimated that there are 4 billion acres of land suitable for the production of human food and clothing. It is generally accepted that $2\frac{1}{2}$ acres are required to support one human being. If this is true it would appear that a considerable number of people must have to go hungry. Only 2 acres per person when we need $2\frac{1}{2}$ acres.

This is further aggravated by the distribution of population. One-half of the people live on one-twentieth of the land area with a population of 80 individuals per square mile. In parts of Europe the population density is 167 per square mile. In some areas in Manchuria, Japan, and China there are 290 people per square mile. In India and Ceylon the density reaches a staggering 400 per square mile. This is 8 times the density of population as is found in United States and 16 times that of Canada with only 25 per square mile.

Many outstandingly intelligent people laughed at Dr. Malthus 200 years ago, when he said that increase in population tends to exceed the ability of the earth to support it. He suggested that food production increases in arithmetical ratio, while population increases in geometrical ratio. Two hundred years ago there were



feed for animal consumption, we grow it to excess.



Old fashioned methods means hungry mouths.

many frontiers not explored. The whole of Canada and parts of many other countries awaited the sharp axe of the woodsman to clear the land, and the pointed plough of the pioneer to break the soil and produce food in inexhaustible supply. The critics of Dr. Malthus called him a pessimist, "Population would never overtake production", they opined. But it has, in a shorter time than even the learned doctor had supposed.

There are few frontiers to push back into new, unexplored, potential food producing areas. Most of the countries of the world are using every available acre.

Canada may have 100 million acres of productive land in reserve. Not more than 15 million acres are still available in United States. Perhaps 30 million are still left in Russia and an additional 25 million acres in Europe, exclusive of Russia. No! frontiers cannot be pushed back for further exploitation. Human survival must depend on a more scientific and careful conservation of the resources at present available; perhaps on scientific methods of producing synthetic food and other needs; perhaps by controlling population. This applies to all of the nations of the world.

Through the eyes of the teeming and hungry millions in India and Ceylon, Canada must look like a favoured nation. Across the peaceful Pacific from war torn, plague pestered China, this country must look like a paradise. From the battle battered countries of Europe the thinly populated country of Canada, with its apparently inexhaustible resources, must appear like Utopia. It is a favoured country, and as such perhaps it owes something to the rest of the world. It is better to live together than starve or die together. Hungry people can become envious people. Poorly clad people might be encouraged to become pillaging people. In a modern world it seems necessary to live together, plan together, work together and share.

Farm Forum News And Views

Comment on the February Series

THE February series is certainly controversial. Barriers to trade are something Canadian farmers have been fighting against for several decades now. What are we going to do about tariffs? We can't lay all the blame at the door of the United States. We have tariffs too, and if we'd do something about lowering ours we might be on firmer ground when we go complaining to the United States about restrictions on Canadian dairy produce or oats entering their market.

Do we want tariffs eliminated altogether? Maybe not, some amount of protection may be the price we have to pay for trying to build a nation on the North American continent. Some tariffs help farmers as well but we can't leave those on and take all the rest off, even though that's the way a lot of people talk.

There are a lot of Canadian tariffs that could be lowered and we would all benefit. When we allow industries to hide behind high tariff walls as for instance the rubber industry we find that they get together and charge us high prices for their products. The Government has recently fined the rubber companies for carrying on this practice.

Another case in point is the new legislation to help the textile industry. What this new legislation amounts to is more protection for an industry that is already well protected. What does this mean to you and me?

March Series

- March 1. The School Tax Rate
- March 8. Safety On The Farm
- March 15. From Under The Earth
- March 22. Fourth Night Feature.

It simply means that we pay more. We have a pretty strong suspicion that many of the textile mills are small, inefficient and lack modern machinery—the fault lies with our textile industry, not with United States competition.

What is the solution? We feel that this question should be considered in all the discussions after the broadcast. Here are some suggestions which you may find worth talking over. Firstly, we need to keep an eye on our tariff policy. We need a permanent body which will recommend constant changes in our tariff policy; we need to hold the threat of lower tariffs over industry. In an editorial for the June issue of the Macdonald Farm Journal we advocated the setting up of an International Joint Commission to constantly investigate this question of tariffs on both sides of the border. We would like to see Canada and the United States give some of their sovereignty to this Commission and let it manage our tariff policies for us, but at first it could, at least, strongly advocate certain lines of action to be followed.

We don't know what to say about the February 15th. broadcast. To our way of thinking the problem is one



Can we scale the barrier?

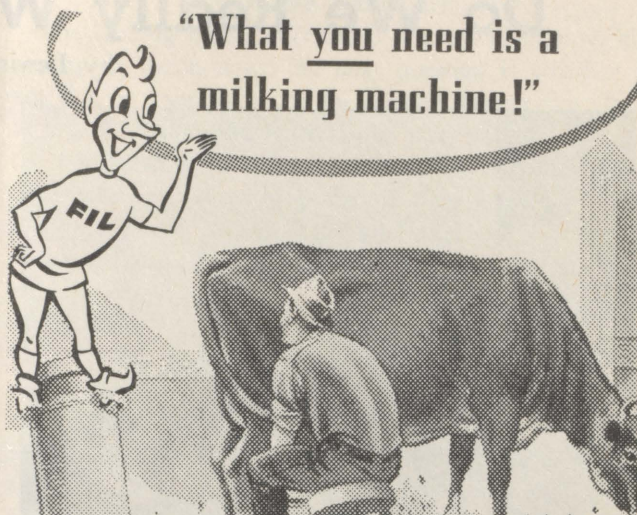
of marketing rather than production, and here we run into the world troubles of dollar shortages, subsidies, quotas and other restrictions. Our production now would go a long way toward filling the world's food needs, but how are we going to get it to them? That is the big \$64 question, for let there be no mistake we can't forever sit on top of a stockpile of food while two thirds of the world goes hungry. We can either answer this question—and soon, or we can expect the hungry and dispossessed to answer it for us.

House Plants Rest in Winter

Don't be disappointed if your house plants cease flowering in winter time or flower feebly. This is a natural condition, for winter is a resting period induced by the shorter days and the lower temperatures. Most of the plants that do flower in winter have been prepared for blooming during the preceding months of summer or autumn.

During the winter, house plants should receive special treatment to accommodate them to this rest period. All practices which tend to stimulate growth should be stopped; less water is needed; repotting and root disturbance should be avoided.

Fairly low temperatures are desirable, but as the warmth of a house is maintained to suit humans rather than plants, this is not always practical. The average room temperature of 70 degrees is much too high for most plants during winter time. Often a compromise can be made by keeping the plants in the coolest room,



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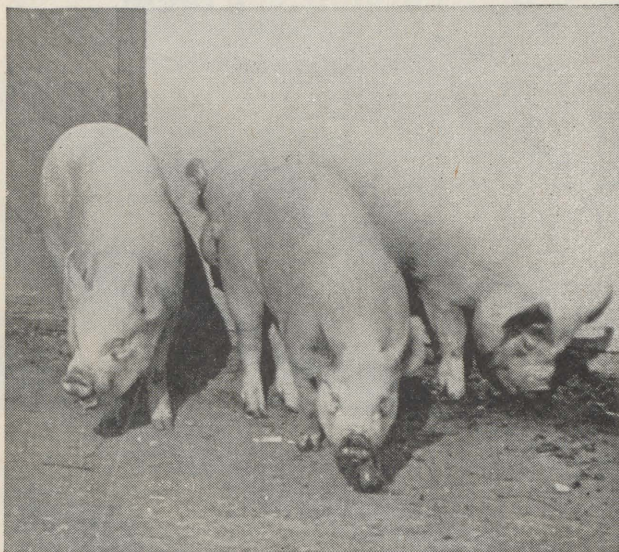
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Do We Really Want Lean Bacon?

by Lewis E. Lloyd



Will these hogs grade for bacon quality?

AS we begin another year, we realize that ten years have gone by since our boom-year for hogs in 1944 when over eight and three quarter million animals were marketed. Therefore, this seems a good time to stop and take a look at the present status of the hog industry in Canada.

First of all, what has been happening to the total output of hogs in Canada since 1944? The trend, up to 1951, was downward, and in that year output was only a little better than half the 1944 figure. However, the industry took new life in 1952, and an output of some six and three quarter million hogs constituted the largest marketings since the all-time high of 1944. A sharp drop in output, amounting to 20% of the number for the corresponding period in 1952, was again observed for the first ten months of 1953.

Secondly, what about our export market and revenue from the hog industry? Our export market, a shell of its former self, now consists mainly of the United States and the British West Indies. However, in spite of the fact that bacon and pork exports in 1952 were the smallest since 1891, a drop from the record of 718 million pounds in 1944 to less than 14 million pounds, the total value of the 1952 hog output was nearly 263 million dollars. This was an all-time record for revenue from the industry.

Finally, what has been done over the past ten years to improve the quality of bacon carcasses produced in Canada? The answer must be that, in practice, very little has been done. The fact that only 28.5% of the pigs marketed in 1952 graded A showed that less attention was being given to carcass quality by the feeder, since this was the smallest percentage of top grade hogs

observed for eight years. This trend continued for the first ten months of 1953, when only 28.0% of the pigs marketed during that period were of A grade. Thus it appears that improvement in bacon carcass quality is becoming less and less important. This is certainly not a happy situation. The high quality of Canadian pork and bacon products has gained wide-spread fame during the past thirty years, a recognition of which Canadians should be proud. Therefore it is indeed a shame that now we are neglecting this feature of the hog industry, especially in view of the fact that, with the present breeds in Canada, we are aware of methods of feeding which will consistently result in high quality carcasses.

What Is Good Bacon?

Probably the most critically important factor determining the quality of a hog carcass is its proportion of fat to lean. For example, if a Yorkshire pig is marketed between 195 and 205 pounds live weight, a high fat to lean ratio will be, in the majority of cases, responsible for degrading the carcass from an A to a B₁. Therefore, our feeding practices must be geared to keeping this ratio as low as possible without actually underfinishing the hogs.

As far back as 1939, it was found in England that the following changes take place in the composition of the carcass as a pig matures.

Age	Live weight (lb)	Percentage Composition of Carcass*		
		Bone	Muscle	Fat
Birth	3	25	39	5
16 weeks	80	14	46	26
28 weeks	220	9	39	43

*The balance of the 100% being skin, tendon, etc.

From these figures, the English workers observed that the greatest formation of muscle (lean meat) took place early in the feeding period, while fat was formed at an increasing rate up to and beyond market weight. Next they proved, in practice, that higher grade hogs were



A good start will save money later on.

produced by full-feeding during early growth, when muscle formation is most active, and by restricting the feeding later, during the stage of fat formation; this reduced the proportion of fat to lean in the carcasses.

Between 1943 and 1948, research along these lines was carried out by the Nutrition Department at Macdonald College. It was first shown that, under Canadian conditions, bacon carcasses could be improved by cutting down on the feed from 115 pounds to market weight, which had the effect of slowing down the rate of growth. But this is difficult to do in practice, with groups of hand-fed pigs, and impossible to do with self-feeding. So another way of slowing the rate of growth during the finishing period was tried; by using certain fibre-containing feeds in the ration to reduce the usable energy portion of the feed. When alfalfa meal, wild oats or wheat bran replaced part of the barley basal ration, or when oats replaced all of it, in actual feeding trials, it was found that the percentage of Grade A hogs was increased. And one unexpected feature of the experiment was the fact that this carcass improvement did not always occur at the cost of a decrease in the rate of gain.

Feeding For Top Quality

As a result of these experiments, the following recommendations were made in regard to desirable feeding practices for the production of high quality bacon carcasses. During the growing period (from weaning to 115 lb.) pigs should receive a 16% protein ration consisting of highly digestible basal grains such as barley or wheat plus a suitable protein-mineral supplement. This will ensure a maximum rate of growth during this period. During the finishing period (from 115 lb. to market weight), the protein level may be dropped to 14%, and 25% wheat bran or wild oats should be included in the ration, replacing an equal amount of basal grain. This "dilution" of the energy-yielding portion of the ration with a fibrous feed tends to prevent the production of fat, this usually being associated with a reduced rate of gain.

Antibiotics have become recognized as desirable in hog rations. On the average, gains of young pigs may be expected to be increased about 15%, and the efficiency of the ration improved about 5%, when one or other of the recognized broad spectrum antibiotics (penicillin, terramycin, etc.) is added to the feed. Furthermore, it has been observed that removing antibiotics from the ration when the pig reaches 110-115 lb. tends to reduce feed intake and to decrease rate of gain during the subsequent feeding period. Therefore, to ensure the production of high quality bacon carcasses, antibiotics should be included in the growing ration, a period when maximum rate of growth is desired, but withdrawn from the finishing ration, a period when fat formation should be kept to a minimum.

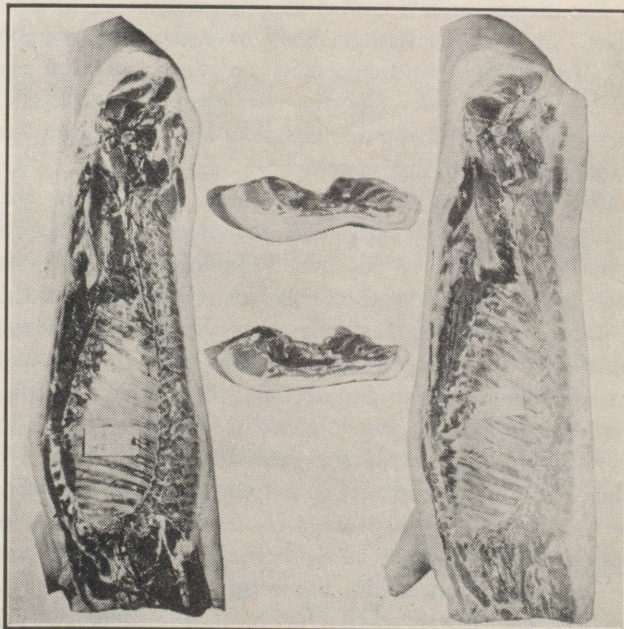
Can We Afford It?

The feeding practices outlined above will improve the quality of bacon hogs; the next question is whether or not this programme is one the average farmer can afford to use. We must reluctantly agree that it is not. Diluting the hog finishing ration with fibrous feeds usually slows down the rate of gain so that it takes longer to bring a hog to market weight. Of course, the extra feed eaten is lower cost feed, so the chief disadvantage of this method is the increased length of the feeding period, which may be as much as two weeks. On the other hand, there is the better market price, as well as the dollar difference in bonus value between an A and a B₁ carcass. But in spite of the fact that this method of feeding has been known in Canada for some years, the Canadian farmer doesn't feel that the price difference between grades makes up for the extra labour required, as the sharp drop in the percentage of Grade A hogs marketed in the last two years shows.

What, then, could be done to make it economically desirable for the farmer to produce a top grade bacon hog? There are two possible answers to this question.

First, the Canadian government could increase the subsidy on Grade A carcasses. However, since this method of promotion, in principle, involves robbing Peter to pay Paul, it is not a sound solution. Alternately, the packing houses could increase the spread between the price they pay for top and lower grade carcasses. Economically this seems to be the more practical way of meeting the problem. The farmer would be encouraged to feed towards high quality, and the consumer would not have to pay high prices for an inferior product—namely fat pork.

Because our limited export market for bacon and



There's a big difference in these bacons.

pork products today does not demand high quality, there appears to be a tendency in the Canadian hog industry to discount the importance of bacon quality. This seems to be a rather short-sighted attitude. If at some future date, a foreign market for high quality bacon products did re-open, and in the meantime quality had been allowed to take a back seat to quantity in this country, it is conceivable that Canada would not be considered as a potential source of the desired product. Admittedly, a return to the production of a high quality carcass could be achieved at short notice since the genetic characteristics of our hogs will not have changed—however, there is always the matter of reputation to be considered. It has taken Canada many years to build up her high reputation in the field of bacon carcass quality, but only a few years of laxity would be necessary to destroy this reputation. This seems of much greater importance in the light of what is currently being done with respect to carcass quality in the United States. Scientific journals, which formerly carried little mention of this topic, now are

full of articles describing how to get a leaner and more desirable carcass for bacon purposes. For example, in November 1953, an article originating from the University of Wisconsin dealt with the influence of limited-feeding, by the use of high fibre rations, on growth, fattening and carcass characteristics of swine. The results were quite similar to the findings obtained earlier at Macdonald College, but they do indicate, quite forcibly, the trend towards better carcass quality currently in evidence in the United States.

Therefore, it would appear more essential than ever that we in Canada maintain our high reputation for the production of high quality bacon and pork products. The universities can only recommend methods of feeding consistent with the production of this high quality, but it remains for far-sighted marketing policies to provide an economic stimulus for the farmer to produce top grade bacon hogs through modified feeding methods. In this way, the high reputation of the Canadian Hog Industry might be again placed on firm ground.

Brome and Quyon 4-H Clubs Top Campaign

The winners of the recent Macdonald Farm Journal subscription campaign, sponsored by Quebec 4-H clubs, were Brome club which sold 54 subscriptions and Quyon club which sold 49.

Under the rules of the campaign, Brome club received \$54.00 and Quyon club \$49.00 for their efforts. In addition each of these clubs will receive additional recognition by way of a 1st and 2nd prize. The other nine 4-H clubs that participated in the campaign averaged 14 subscriptions each.

The Brome and Quyon 4-H clubs are to be congratulated on their leadership. They have shown how a bit of extra planning and determination can be made to pay off. These top clubs reported that their increased sales were made by careful organization and capitalizing on Fairs and community meetings.

All in all it was a fair beginning. Most of us will agree that it is no easy task to learn how to create interest and support for our community organizations. You will agree that there was more involved in this Journal subscription campaign than the tangible returns in the form of money—important as that is. You can use this experience to discover ways of working together and handling your own affairs.

Another year we of the Journal hope to offer 4-H clubs the same opportunity to sell subscriptions. This offer, in the first place, gives the 4-H club an opportunity to strengthen its position in the community and raise part of its own finances. In the second place, Macdonald College can better serve Quebec farm people through increased readership of its farm magazine.

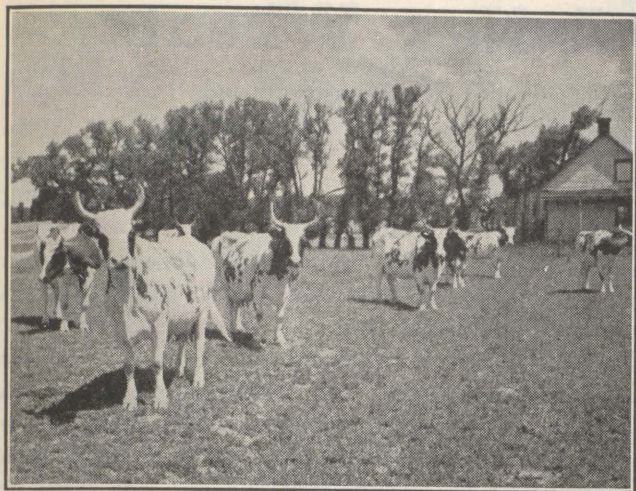
Grass Silage Boosts Milk Production



The shift from hay to silage, to avoid losses due to weather, is causing dairymen to feed a greater proportion of grass silage in the roughage. Many dairymen are feeding grass silage as the sole roughage for their milking cows.

Since grass silage is usually harvested earlier than the hay crop the proportion of protein to total digestible nutrients is higher for silage than for hay from the same crop. The proportion of protein is even higher where the silage contains a high proportion of legume.

When a milking cow is fed all the high quality grass silage she will eat, she will be receiving protein in excess of her needs and insufficient total digestible nutrients or energy to meet her requirements. To overcome this add a supplement relatively low in protein and high in total nutrients to make a better balanced ration relative to the cow's requirements. A grain mixture of three parts of oats and two parts of barley appears



These cows will thrive on high protein grass silage during the winter.

to be satisfactory as a supplement where a high proportion of good quality grass silage is fed.

In an experiment at the Central Experimental Farm, Ottawa, milking cows were fed a roughage ration consisting of 5 pounds of grass silage and $\frac{1}{2}$ pound of hay per hundred pounds live weight daily. This roughage was supplemented with a meal mixture of oats and barley for one ration, which was compared with a ration of the same roughage supplemented with a meal mixture of oats, barley, bran, and linseed oilmeal. The latter supplement contained three per cent more digestible protein than the oat and barley mixture.

In this trial, the production of milk from the oat and barley supplement was equal to and even slightly higher than when the roughage, high in silage, was supplemented with a meal mixture three per cent higher in digestible protein.

The feeding of grass silage as the sole roughage to milking cows has given satisfactory results. This economical source of protein can be supplemented with less costly low protein feeds and should materially assist in the search for a more economical means of producing milk.

For The Ladies

HAVE you ever thought of desserts as something other than a good piece of pie after a heavy first course? Too many rich desserts such as pies or steam puddings may be responsible for much of the overweight problem which plagues many families also the digestive disturbances which afflict some people especially the young and the old.

The best way of figure on the dessert is to consider the type of meal you are serving, for instance, if you've got a heavy main course, then give a light dessert, but when the first course is light that's the time for that piece of pie or steam pudding you're most likely longing for.

I guess if most of us ever had to choose between a

piece of pie or crackers and cheese, we'd take the pie every time. But listen to this and weep all you who are—well—let's say putting on a little weight. An average serving of pie will provide over 300 calories and approximately 4 grams of protein. The size of the piece would be about one seventh of a nine inch pie which you would make. On the other hand a one inch cube of cheddar cheese would provide about 105 calories and about six grams of protein. If you're going to be real generous with yourself and serve two crackers with the piece of cheese then you've got to add 34 more calories which gives you only 139 calories for the crackers and cheese as against 300 for the pie, and 6 grams of protein as against 4 grams for the pie.

If you've got a big family, a fancy dessert is too much bother to make. We admit it looks good in the magazines, you know the picture where you see the smiling young wife in her germ free, stainless steel, (filled with aluminum waterless cookers,) spotless kitchen whipping up some real fancy looking dessert to catch the eye of her good husband, while all the time under her feet four or five children are running about, but it doesn't work out that way in actual practice, so as we said before, keep those desserts simple, for instance, apple sauce.

Well that's all we've got to say on that subject, but before we sign off with a recipe don't go blaming the Home Economics department at Macdonald College for this little blurb, it's that man again, remember the one who wrote the August copy? Well he got in again, but it will be the last time we hope.

After saying all we have about fattening desserts, here we go with a recipe for a coffee cake which is exactly the thing you shouldn't eat, but oh well! Let's start knocking off those fancy recipes tomorrow.

Spicy Apple Coffee Cake

TOPPING

- 2 T. flour.
- 1 T. cinnamon.
- $\frac{1}{3}$ cup brown sugar.
- 2 T. butter.
- 2 medium sized baking apples.

CAKE

- $\frac{1}{4}$ cup shortening.
- $\frac{1}{2}$ cup sugar.
- 1 egg.
- $\frac{1}{2}$ cups sifted enriched flour.
- 3 tablespoons baking powder.
- $\frac{1}{2}$ T. salt.
- 1 cup milk.
- $\frac{3}{4}$ cup quick rolled oats, uncooked.

For topping, mix together flour, cinnamon, sugar and melted butter. Pare, core and slice apples.

For cake, cream shortening and add sugar gradually, creaming after each addition. Add eggs, beating until light and fluffy. Sift together flour, baking powder, salt and add to creamed mixture alternately with milk. Fold in rolled oats. Pour batter into greased 9 inch square cake pan. Arrange sliced apples over cake batter and sprinkle with cinnamon topping. Bake in a moderate oven (375 degrees) 40 to 45 minutes. For a thin confectioner's sugar-frosting, combine 6 tablespoons confectioner's sugar and 1 tablespoon lemon juice.

Ottawa Releases A New Wheat

A RUST-RESISTANT wheat has been licensed as a new variety under the name of "Selkirk". On the basis of milling and baking tests made by cereal chemists in North America and the United Kingdom, Selkirk has been recognized as equal to Marquis in quality and therefore eligible for the top grades.

The Associate Committee on Grain Research, which normally handles the quality testing of new varieties, made special arrangements for rapid testing of the 1953 crop. Samples were sent by air to the United Kingdom. Test reports were collected by December 3 and a special meeting of the Committee was held to study the results. Following this meeting the variety was accepted by the Board of Grain Commissioners to enter the higher grades and licensed by the Plant Products Division of the Department of Agriculture, for sale in Canada.

As a result of speeding up multiplication of the new variety last year, the Canadian Department of Agriculture has approximately 130,000 bushels of Selkirk wheat available for sale from the 1953 crop.

Distribution

Distribution of the seed will be made through the Laboratory of Cereal Breeding, Winnipeg. Ten thousand bushels will be retained by the Department for increase in 1954. Ten thousand bushels will be sold as registered seed to growers having obtained crop registration certificates in the past three years, at a price of \$5.00 per bushel.

Six thousand bushels will be allotted to Experiment Stations in the United States, for them to increase under contract in 1954. This is in return for the cooperation received from them in the rust-resistant breeding program, particularly in the multiplication of seed supply in California last winter.

The remainder of the 1953 seed supply will be sold as certified seed at \$4.50 a bushel to growers in Manitoba and in Saskatchewan east of the third Meridian (a line running North and South approximately through the centre of Saskatchewan) in order to keep seed of the new variety in the area where crops are likely to be affected by rust. Farmers west of the third meridian can obtain as good crops from other varieties, such as Thatcher, so Selkirk is not needed there.

Origin of Selkirk

Selkirk's parentage goes back to the discovery, in 1930, by Mr. M. S. J. McMurachy, a seed grower at McConnell, Man., of a wheat stem growing in a field of Garnet that appeared to be particularly free from stem rust. Mr. McMurachy plucked the head and gave it to his young daughter to take home. On the way she lost it. Search of the field failed to reveal another similar head, but

fortunately Mr. McMurachy, tracing back the path followed by his daughter recovered the head. He turned it over to the Cereal Division for testing.

When plant pathologists in the United States announced in 1938 the discovery of the new race of stem rust, since known as 15B, to which all varieties then being used were susceptible, Canadian cereal breeders started looking for wheat strains that were resistant to it. The McMurachy wheat showed it had resistance to the new rust. It was crossed with a variety, Exchange, which has resistance to leaf rust, and the hybrid from this cross was crossed and back-crossed with Redman, a high quality wheat, to combine stem and leaf rust resistance with yield and quality.

Appearance of 15B stem rust in Manitoba in 1951 indicated the necessity of providing a resistant variety as soon as possible.

Out of various strains available from the McMurachy, Exchange and Redman crosses a strain known as C.T. 186 was selected for increase in 1952.

Starting with a few bushels produced at Winnipeg, the new strain was multiplied under contract and at Experimental Stations up to 700 bushels in the fall of 1952. That fall 150 bushels were taken to California, seeded there under contract, in November and December. The harvest from this crop, brought back in May, 1953, provided 6,000 bushels of seed.

During the past summer, this was increased on irrigated government land under P.F.R.A., on Experimental Station fields, and by selected seed growers under contract to the 130,000 bushels now available.

Normally new varieties are tested for quality and yield for at least three years before they can be licensed. Speeding up the field tests, by growing the additional crop in California, and the quality tests by sending it to cereal chemists both in the United Kingdom and North America, reduced this to one year for the new variety now given the name of Selkirk.

Unfortunately, new races of rust have now appeared in Canada to which Selkirk is susceptible. Breeding work is already underway to obtain varieties resistant to these new races, therefore, it is possible that before many years Selkirk will need to be replaced with another variety—not that it will have lost the rust resistant qualities it now possesses but because new forms of rust have been developed by Nature.

TV Sales Going Up

January to September sales of TV sets amounted to 135,388 units for 1953 as compared with 33,636 units for the corresponding period a year earlier.

Information Please! ★ ★ ★

This section should make interesting reading for it is given over to the problems of our readers. Problems sent in by Farm Forum and other groups will be dealt with here.

FARM woodlots can be valuable, here is some good information on how to make that woodlot pay off in dollars and cents over the years.

The farm woodlot is often overlooked as a source of revenue and particularly as a continuing asset through the years. Compared with the other work on a farm the handling of a woodlot is fairly simple, but there is need for a reforestation or conservation plan to obtain the best results.

Most farm woodlots need what is termed an improvement cutting in which comparatively useless species or malformed and dying trees are removed to make way for the growth of better species or more thrifty trees. The wood from this improvement cutting is usually neither large nor merchantable as logs. It should be used as fuel-

wood either on the farm or sold on a local market where it will often bring good prices.

The woodlot should be worked or reforested so that it will produce both high quality and low valued products. Yellow birch, maple, pine and spruce, when grown to maturity, will yield high quality logs for which there is a ready market. The tops of both mature hardwood and softwood trees will yield a large amount of fuelwood which should be harvested when the logs are cut. At this time any young or small trees broken or injured when felling the mature timber should also be cut.

Stand improvement of the farm woodlot at the time of harvesting is a logical step in woodlot management. This need not be done all at once, but when felling each mature tree the stand for a good distance around should be culled to remove useless members of the stand. In time the whole woodlot will be in shape for greatest growth.

Cared for systematically over the years the farm woodlot can be a source of considerable revenue, but if left untended it will soon become overgrown and of little value as a farm asset.

Good Feed Means Good Lambs



These cross-bred yearlings are alert and well conditioned.

PREGNANT ewes must be well fed if good lambs are to be developed. Feeding the lamb through the ewe is not a new idea, and its value has been emphasized by some results obtained at the Central Experimental Farm, Ottawa, Ont.

Reporting on these results, W. H. Hough says that legume, non-legume, and mixed hays were compared as roughages for pregnant ewes. The legumes hay proved

to be superior as measured by maintenance of ewe body weight, lamb birth weights, and lamb vigour at birth. The ewes, fed legume hay, dropped lambs which were 11% heavier at birth and had 66.7 percent higher "birth vigour" grades than the lambs dropped by the ewes fed non-legume hay. Further indications of this superiority were the increased milk supply of the ewes and rapid early gains of the lambs together with decreased mortality of both.

The non-legume or grass hay was shown to be inferior feed for the pregnant ewes while the mixed legume and grass hay was intermediate in feeding value between the above two types of roughages.

When the non-legume hay was supplemented with one-half pound of linseed oilmeal daily or with one-half to one pound of oats daily, the results showed the ration to be an improvement over non-legume hay alone but not equal to the quality of the legume hay ration. The addition of a Vitamin A supplement to the non-legume hay ration did not increase the ration quality.

Production of Skim Powder Down

Production of dry skimmed milk was 36 percent lower in October, 1953 than in the corresponding month last year. Stocks in private hands were 4 percent lower at November 1, than at the same date in 1952. Small price advances have occurred in recent weeks especially in the roller market.

People Like Butter

Domestic disappearance of creamery butter in the first ten months of 1953 was about 4 percent greater than in the corresponding period of 1952. There are signs that competition from margarine may be stiffer this winter than last, so butter production may not continue as much above the previous year's figures as in the early months of 1953.



DEPARTMENT OF AGRICULTURE

*Activities, Plans and Policies of the Quebec
Department of Agriculture*

With Quebec's Beekeepers

Four hundred and fifty eight Quebec farmers gave up keeping bees during 1953, but two hundred and fifty new bee keepers went into the business during the same period, so the net loss to the industry was only two hundred and eight. The total honey crop was a little smaller, and there are 64,172 colonies on farms, as compared with 64,561 in 1952. During the year a slight increase in the numbers of reported cases of American foulbrood occurred, but there were fewer losses during the over-wintering period. These are some of the facts and figures reported at the annual meeting of the Quebec Beekeepers' Association, held in Montreal early in December.

President Louis Bossé, who was re-elected for another term, presided at the two-day meeting, which was well attended by beekeepers from all parts of the province. Featured were talks by J. H. Lavoie, who discussed the mineral balance of the soil and its importance to plant life; by Father Claude, who described approved methods of preparing liquid honey for market; and by N. Chabot, who outlined some of the experiments underway at Deschambault to determine what plants are preferred by bees on their foraging flights.

The question of prices occupied a good part of the

time of the meeting, and a resolution urging some method of regulating prices was adopted. Another resolution asked that bee keepers be permitted to make use of the Farm Credit Bureau to borrow money for improvement and expansion of their operations. It was suggested that equipment be placed on the demonstration farms to make it possible to determine how much nectar might be expected to be available from the various food plants in the region. National Honey Week was thought to be a good thing, and it was hoped that a Provincial Honey Week, to co-incide with the National one, might be organized. Realizing the value of the moving picture, the meeting asked that the National Film Board be asked to prepare a really good film, in colour, on bees and bee keeping, for general distribution as a means of showing the consuming public how honey is made, processed and sold, with a view to increasing the demand for this excellent food. There have been a lot of discussions about the value of pasteurizing honey, and a resolution was adopted asking that experiments be proceeded with to determine, once and for all, whether pasteurizing honey reduces its food value in any way.

In an open discussion on the best ways of increasing the honey market, there was general agreement that a rigid grading system offers the best hope. Poor honey hurts sales and destroys public confidence in the local product. Good honey, sold by grade that the customer can depend on, is its own advertiser.

The Dominion Apiculturist, Dr. C. A. Jemieson, attended the meeting, and congratulated the members of the Association on having the largest attendance of any of the provincial meetings he had attended this year. He thought this evident interest in the affairs of their Association spoke well for the future of the industry in this province. In his talk, given in English and translated later by S. M. Deschenes, he described the workings of the Federal Apiculture Division and told of some of the experimental work that was being carried on there. The most important projects at present underway have to do with studies on the prevention of crystallization of liquid honey, the role of bees in pollinization, tests of hybrid queens, and studies of disease control. In the pollinization studies it had been found that 2 hives per acre gave the highest set of seed, working with



S. M. Deschenes, Quebec Honey King, receives the Jones Cup from Emile Bedard, presented for the best exhibit of comb honey at the Quebec Fair.

second cut red clover. In fields containing two hives, 307 pounds of seed were harvested, compared with only 63 pounds in the control field where no hives had been placed.

Every year a tour is organized to give Quebec bee keepers a chance to see how things are done in other provinces. Last summer they went to Ontario and a report of the trip was given by J. M. Couture. Another trip will be made next summer, and a committee was named to decide where to go, and when.

All members of the board of directors whose terms, which run for three years, had expired were re-elected. J. B. Montambault of Batiscan will be vice-president again and J. A. Prud'homme of Ste. Martine will continue as secretary. Other directors are B. Baril, Ste. Luce; O. Paradis, St. Simon de Bagot; H. Shinck, St. Timothée; Paul Yelle, St. Remi; Aurelien Beaudry, Montebello; R. Handfield, Contrecoeur and Roch Caron, Chateauguay.



For signing up the most new members for the Association, Henri Paul Desforges received the cup he holds in his left hand, and is congratulated by J. H. Lavoie, Chief of the Horticulture Division of the Quebec Department of Agriculture.

Something For Almost Nothing

Blueberries are a cash crop that don't require anything but the harvesting—no soil preparation, planting, cultivating, spraying or any other care. And blueberries bring in a cash income of over two million dollars to people living in the parts of the province where they grow abundantly.

The harvest was a lot smaller than usual this year: 12,651,392 pounds as against over 16,000,000 pounds last year, but still it was worth \$2,040,332 to the pickers in the northern parts of Quebec. The Lake St. John area was responsible for over 80% of the crop, but Abitibi-Temiscamingue and Charlevoix-Saguenay shared in the profits also.

Although the harvest was smaller, prices were better: 20 cents a pound compared with 14 cents in 1952.

A New Year's Greeting From The Minister

I am happy to have this opportunity of extending my very best wishes for the coming year to all readers of the *Journal*.

We had our share of good times and of bad during 1953. As far as we farmers are concerned, dry weather, fewer export markets and lower prices for certain of our products can be marked up on the bad side. But on the other hand we can remember that we had no general depression, that our harvests were, on the whole, satisfactory, and we give thanks at the beginning of this new year for these blessings.

And what of 1954? None of us can say for certain what the future holds in store, but it would appear that we can face it with confidence. There appears to be no evidence of any slackening of employment in industry, which indicates a continued market for our products, and I hope with all my heart that this promise of prosperity will be fulfilled.

I hope our farmers will continue to realize the dignity and nobility of their chosen profession; may they never lose sight of the spiritual and material benefits which are theirs. May you all continue to study and work together in harmony for the solution of your common problems, and may you inculcate in the minds of your children that love of the land that will make them eager to follow in your footsteps, to the benefit of themselves, their families, this province and Canada as a whole.

LAURENT BARRÉ,
Minister of Agriculture.

Seed Potatoes Subsidised Again

The provincial subsidy for the purchase of certified seed potatoes is offered to Quebec farmers again this season, it is announced by Minister of Agriculture Barré.

The amount of subsidy is \$300 per carload of 600 75-pound bags, and is paid only for the purchase of Foundation stock grown in this province. The potatoes must be bought from one of two suppliers: the Shipshaw Potato Growers' Syndicate for purchasers in the counties of Chicoutimi, Lake St. John, Roberval and Saguenay, and the Co-operative Federee for all others. The Department will not deal with any others, and instructions have been given the suppliers not to engage to allow more than the total amount voted for this subsidy. Orders will be filled in as they are received and late orders received after all the credit is used up cannot be subsidised.

The subsidy will be paid only to bona-fide farmers who send in group orders through some recognized organization.

Come To The Salon

Don't fail to visit the National Salon of Agriculture at the Show Mart in Montreal, which is on from January 27th to February 4th inclusive.

All the available space in this huge showroom has been booked, and some of the exhibits have had to be set up in part of the basement. While exhibits from Quebec predominate, organizations from Nova Scotia and from Saskatchewan have set up exhibits, to mark the beginning of a truly National aspect to this show, which had a phenomenal success in its first season last winter. It is confidently expected that before long all of Canada will be represented at this truly agricultural demonstration and exhibition.

Quebec's champions in various fields of agriculture will be specially honoured this year, and our "royalty" will hold audience. In a booth of their own you will meet Mr. S. M. Deschenes of Longueuil, our honey king; Mr. Roy Harrison of Bury, our maple products king, and top winner at the Royal Winter Fair. Mr. Wyman MacKechnie, our most recently named Commander of the Order of Agricultural Merit, and other leaders in the farming field, are on hand to greet you.

There was much public interest in "live" exhibits last year, and more of them are included in this year's presentation. Prize winning examples of dairy cattle, beef cattle, bacon hogs and poultry are on display to show the city folk, who make up the bulk of the visitors to the Salon, the quality of stock that Quebec's farmers can produce.

Sherbrooke Cattlemen Tie In With St. Hyacinthe

The latest group to organize to take advantage of the services offered by the Artificial Insemination Centre at St. Hyacinthe is one at Sherbrooke, which started operations late in November with 96 charter members from the parishes of Sherbrooke, St. Elie d'Orford, Rock Forest, St. Denis, Bromptonville, Ascot Corner, Stoke, Lennoxville, Capleton, Waterville, Compton and St. François Xavier de Brompton. At the organization meeting which was attended by Nazaire St. Pierre and Claude Hayes of the Centre, and agronomes W. G. MacDougall, Jean Martin and J. A. Lambert, the following officers were elected to direct the affairs of the new society; Leonard Lemay of Bromptonville, president; John A. Ross, Waterville, vice-president; Florent Dion, St. Elie d'Orford, secretary-treasurer and technician; Etienne Poulin, Sherbrooke, Luc Jetté, Stoke, George Lacasse, Rock Forest, Gilles Gendron, St. Elie and J. M. Petit, Waterville, directors.

The 96 charter members contracted to make 702 cows available, but this is just a beginning and it is confidently hoped that by 1955 at least 2000 cows will be under contract.

Will The World Be Better Fed In '54?

According to figures of the Food and Agriculture Organization world agricultural production is now 20 per cent above prewar; the 1948-50 production was about 12 per cent over prewar. Thus, in the last three years, production has risen about 7 per cent or over 2 per cent yearly, which is rather more than the increase in population which is now about 1.4 per cent yearly. Production figures exclude USSR and China.

Although the figures are weighted somewhat by the good wheat crops of 1952, the gains cover all main agricultural products. But when the production rise is broken down by areas, many differences in the production level of various countries are found. The production rise in Europe during the last three years has been 12 per cent; Latin America, 7 per cent and the Near East, 16 per cent. But in North America, where production is high, and the Near East, where production is very low, the increase is no more than 4 to 5 per cent per capita. The Far East is still producing only 80 to 85 per cent of its prewar level, though this does not mean that food consumption in the Far East has fallen 15 per cent, for that area in prewar years was a large net exporter of food, while now it is a large importer.

The same trend is evident in other under-developed countries and overall contributions to the world's net food exports have been reduced by one-third, their place as exporters having been taken by larger shipments from North America. The need, FAO says, is to concentrate on agricultural expansion in deficit countries themselves and so redress the lack of balance between production and consumption, which became greater during the war and postwar years.



One of Quebec's outstanding 4-H club members is Rhoda Simon, who scored top individual honours at the National Judging Contests at Toronto this fall. She is shown here with some of the trophies she has won in club work.

Ketosis of Dairy Cattle

by D. G. Dale, D.V.M.

Ketosis or acetonemia, as it is often called, is a disease that has been recognized for about 100 years. It is classified as one of the "metabolic" diseases of animals. In other words, it is not infectious, but rather it occurs in an individual animal due to an upset in the workings of the internal "chemical plant" of the body. Veterinarians in explaining the disease to their clients have often compared the condition to diabetes in the human, pointing out that in some respects ketosis represents the opposite sort of condition. In human diabetes the sugar in the blood is excessively high because the cells making up the tissues have lost their ability to use it as fuel. In ketosis of cattle, on the other hand, the sugar in the blood is excessively low. In both cases the body cells must turn to some other fuel to meet their energy requirements. The next choice of the cells, as it were, is fat, and when fat is metabolized, end products called "ketone bodies" are set free. In both the human diabetic and the cow with ketosis these "ketone bodies", one of which is acetone, accumulate in the blood stream and exert a harmful effect on the body.

For many years the above explanation of ketosis was accepted with very little question. Unlike diabetes, ketosis could often be completely cured. The method is quite simple and consists of correcting the low blood sugar by injecting a solution of sugar (glucose) into the blood stream. In the last decade research workers have probed deeper into the fundamental causes of this interesting and economically important disease of dairy cattle. Some very interesting new facts have come to light. In man and most of the higher animals starchy foods, i.e., carbohydrates, are broken down in the intestinal tract

to yield simple sugars such as glucose. This glucose is then absorbed into the blood stream and is thus available as fuel for the body cells. Until quite recently, it was assumed that the same sort of thing went on in the body of ruminant animals as well. Now, however, we know that this is not true. A good percentage of the carbohydrate that the ruminant animal eats never reaches the intestine, rather, it is attacked by the bacteria in the rumen and is converted, not to glucose, but to products which we usually consider to be the first steps in the break-down of fat. These products are called short chain fatty acids. Furthermore, it has been found that these fatty acids can be absorbed into the blood stream directly from the rumen and, therefore, they are immediately available to the cells of the body as a source of energy. For many years it has been known that the liver is capable of converting the glucose derived from starchy foods into fat. The reverse procedure was also known to be possible, i.e., the liver can convert certain fatty acids derived from fat into "animal starch" or as it is more properly called, glycogen. This glycogen when it is needed as fuel for cells is broken down to yield glucose, so by an indirect process we know that certain fatty acids can be converted to glucose. Other fatty acids, however, cannot be processed by the liver to yield glycogen, but rather must be used for fuel as they are.

As we mentioned previously, when fat or fatty acids are broken down to provide energy, end products called "ketone bodies" accumulate in the blood. Thus we can reason that the bacteria present in the rumen of the dairy cow may do one of two things:

- a. They may convert the carbohydrate in the cow's diet to fatty acids that are predominately of the type capable of being converted by the liver into glycogen and later glucose.
- or —
- b. They may convert the carbohydrate into fatty acids that are predominately the type that must be used for energy as they are, and thus give rise to ketone bodies.

The balance between the production of these "glycogenic" and "ketogenic" fatty acids, as types a and b are respectively called, may be one of the factors in the cause of ketosis of cattle. Experiments have gone further along this line of thought

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to show that cows suffering from ketosis can be cured by feeding them one of the glycogenic fatty acids. Propionic acid in the form of one of its neutral salts has been used successfully for this purpose, and at the present time sodium propionate is available commercially under a variety of trade names for the treatment of ketosis.

There is another group of researchers who have directed their attention to the endocrine glands of the cow in search of the true underlying cause of acetonemia. They, too, have achieved success in the treatment of affected cattle by using several hormone preparations. A discussion of this work will appear in this column at a later date.

The Future Market in Canada

A recent analysis and forecast of the Canadian domestic market potential by economists of the Chrysler Corporation points out a rather promising future in the next two decades. Some of the major findings were:

1. Canadian population should reach 17 million by 1961 and 19 million by 1971.

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2. Canadians gainfully employed should increase by one million by 1961 and another million by 1971.
3. Output of Canadian goods and services, measured in constant dollars, should increase by 30 per cent in 1961 and by a further 40 per cent in the following decade.
4. In ten years the number of Canadian households should increase from 3½ million to 4.3 million and by 1971 to more than 5 million.
5. Spending for consumer goods should rise from slightly over 11 billion in 1951 to 15 billion in 1961 and to 22 billion in 1971.

Putting Bigger Gains On Beef

Do beef animals vary widely in their rate of gain and in the amount of feed needed to make a pound of gain?

Some information on the first of these questions is available from a test carried on at the Experimental Farm, Nappan, Nova Scotia.

A total of thirty-three Shorthorn bulls, heifers and steers were started

on test upon reaching an individual live weight of 500 pounds, and continued on test until each animal reached 900 pounds live weight. Each animal was fed separately and a record was kept of the amount of hay and grain consumed.

The most efficient bull gained 400 pounds live weight in 155 days and consumed 1,540 pounds of meal and 1,075 pounds of hay. The least efficient bull took 237 days to gain 400 pounds and required 2,440 pounds of meal and 1,336 pounds of hay.

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THE WOMEN'S INSTITUTES SECTION

*Devoted to the activities of the Quebec Institutes
and to matters of interest to them*

Education and The School

by Dr. J. D. Jefferis

HOW different a baby duckling is from a human baby. He is so well equipped to meet life. He starts swimming almost as soon as he leaves his shell, and can soon swim and dive expertly. Also, in the course of his lifetime he will learn nothing more. The human baby, helpless at first, long dependent upon grown-ups for his protection, makes a much worse start in life than the duckling, but throughout his life he will continue to learn and there is almost no limit to his possible development.

Essentially the difference is that the duckling is born with a small group of innate reactions which meet the needs of his immediate environment, but very little elasticity in his nervous system. The baby has few innate reactions, but a high degree of elasticity. Extended learning is possible for him, but it takes time. That is why human infancy, the period of immaturity, lasts so long. As society becomes more complex, more learning is needed, so the period of immaturity lasts longer among civilized races than among savages, and the development of civilization brings with it the postponement of maturity for the individual and a delayed ripening of his capacity to guide his own future development, for this is what "maturity" means.

This learning during the years of immaturity is the process of Education, which in its simplest sense, is the rearing of the child during the period of maximum plasticity. A gradual series of changes takes place, a succession of adaptations, to the environment through which the individual develops from an immature to a mature personality, from being helpless to being self-controlled. These changes, slow at first, gather speed and become rapidly faster till the end of adolescence; then they slow gradually to the period between 25 and 35 years of age, after which change, except in the physical sense, is very slow. Plasticity declines as maturity advances; habits become "set"; there is a resistance to farther learning. It is not the case that the old can't learn, but that, generally, they won't. Cato learnt Greek at the age of 80, but you will be too lazy to do so.

Human beings, then, have not merely the capacity for being educated, but the need for it. The process of Education spans the gap between birth and acceptance into full membership of the social group. It is carried

on by society and for society, for it is necessary for the continuance of society. There is a constant tendency and danger that the immature generation will regress to lower cultural levels, unless it is checked by Education. This was demonstrated clearly enough in Russia in the years after 1918, when the educational system ceased to function and "wolf packs" of children swept uncontrolled about the country, living from hand to mouth by theft; this was the childhood of the generation which controls Russia today. With us, the hope of each generation lies in the improvement during its plastic years of childhood, of the next generation, through the establishment of better habits, the importing of more knowledge, the development of nobler ideals.

Now the process of education is performed by many agencies. Some of these are defined as formal agencies of education, including most obviously, the school, but also the church, the home, and such groups as scouts, guides and 4-H clubs. The distinguishing feature of these formal agencies is the intention to teach. The informal agencies of education include such influences as the movies, the radio, the press, advertising, and the child's playmates; all these help to educate without deliberately setting out to teach. The roles of these two forms of agencies are, as will be seen, not always clearly defined. The home, for example, is at some times a formal agency, deliberately teaching the child, at other times an informal agency, unconsciously influencing him.

Whereas the formal agencies of education provide

The office staff says a most sincere "Thank you" for the many greetings and good wishes that came in from Q.W.I. friends all over the province during the Christmas season.

We are sorry that time did not permit a personal reply to every one of you but we do want to let you know how much we appreciated those cheery messages.

That you should take time, at that busy season of the year, to remember us in this kindly way is much appreciated.

Best wishes to you all for the coming year from the three of us.

selected experiences for special purposes, directed at achieving pre-determined results, the informal agencies influence behaviour by experiences which occur in the "natural" activities of life. Often these are more effective than the efforts of the formal agencies. Aesthetic tastes can be influenced more by the movies than by Art lessons, and moral standards can be implanted more firmly by the press and radio than by the Sunday School. This is because such influences meet less resistance from the learner, creeping upon him unawares, and overcoming the reluctance which he feels to make an effort to achieve the formal learning which is imposed on him without his choice.

All experience, and all communication, helps to educate. There is a danger of cleavage between the direct experience gained informally by direct communication and the vicarious experience provided by formal education, which always tends to verbalize, to substitute words for things and situations, and to restrain "natural" activities.

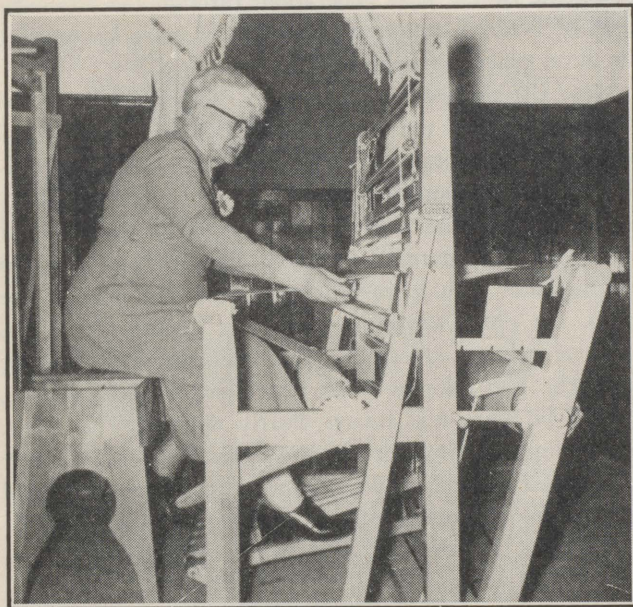
So there is a grave risk that the child may grow up as an inhabitant of two different worlds, each with its separate code of conduct and set of values.

To avert this danger as far as possible, the formal agencies of education must provide a united front, not working in isolation from one another, but co-operating loyally. As Nicholas Murray Butler, long President of Columbia University, has well expressed it, "Education is a co-operative undertaking, in which family, school, and church have each an appropriate part to bear".

The school is a specialized institution of formal education, set up to control the experiences of the child during the period of immaturity and plasticity. It must perform its task in the face of the competing attractions of informal agencies of education with which the child is in constant contact. It cannot perform its task without the assistance and co-operation of the home.

(Sent in by Miss Verna I. Hatch, Q.W.I. Convenor of Education, at whose request Dr. Jefferis wrote this article especially for the Journal.)

Learning To Weave at 75



MRS. RUTH G. HOUSE, Beebe, at the Women's Institute loom where she learned to weave. All her work has been done with linen thread and she has made towels, place mats, and hand bags which she is using for Christmas gifts. One piece of her work is going to be entered in a weaving competition of the London District Weavers Annual Exhibition in London, Ont., February 5 to March 7, 1954.

Three W.I. members, who were in a course given at Beebe by the Q.W.I. Handicraft Technician, Miss Ida R. Bruneau, taught Mrs. House to weave. Mrs. House is a charter member of the Beebe W.I. and was its first president. She has also served for many years on the local school board.

The Month With The W.I.

Many counties must have been very prompt with their reports this month. You will find frequent reference to Christmas plans and activities, which means these were December meetings in many instances. (Branches that hold meetings early in the month are in a fortunate position; items are so much better when they are not too stale.) You will note that contacts with overseas links are still being continued at this season of goodwill, even though the Personal Parcels project is over, officially. The Women's Voluntary Services, who had sponsored this through the Q.W.I., had hoped this might be the case.

Argenteuil: *Brownsburg* presented its annual Christmas program, with guests from the neighbouring branches of Pioneer, Jerusalem-Bethany and Upper Lachute. The county president, Mrs. Gordon Cooke, Arundel, also attended. The children took part in a candle lighting service and a pageant, "The Nativity", was the highlight of the program, with special music rendered by local and guest artists. Refreshments were served after, in the Church Hall, and a visit from Santa completed the evening of combined reverence and merriment. Mrs. Cooke extended the season's greetings to all the branches represented.

Brome: Austin packed a 15 pound box for overseas and voted \$10 for Christmas cheer. Local shut-ins were remembered and a card shower was given the husband of a member ill in hospital. *South Bolton* tied a quilt which will be sold. Candy bags will be filled for the children. *South Bolton JWI* had a visit from Miss Campbell. *Sutton* planned Christmas cheer for the needy.

Compton: The semi-annual was held at *Sawyerville*. Donations to all school fairs in the county were reported and the 250 articles on exhibit at the *Cookshire Fair*



Ayer's Cliff members had the pleasure this summer of a visit from their honorary member, Lady Nuttall, Chichester, England. Lady Nuttall, who represents the Quebec Women's Institutes on the ACWW Executive Committee was in Canada to attend the Toronto Conference, and was a guest of Mrs. R. Thomson, Abbotsford, prior to the conference. The visit to Ayer's Cliff was arranged at that time and the picture shows the group assembled on the lawn at the home of Mrs. Wallbridge, where the meeting was held. County officers were guests also, and the picture shows Lady Nuttall seated in the centre (in dark dress) with Mrs. Thomson at the left and the county president, Mrs. E. Woodard, on the right.

have been sent to Korea, Greece and Italy. Miss Scottina Lawrence, the winner of this year's county bursary, is taking the Teacher's Course at Macdonald College. Mrs. Beattie, Richmond, and Mrs. Sawyer, New Zealand, were guest speakers, describing the ACWW Conference. *Bury* realized \$210 from the banquet at the opening of the Pope Memorial School. Mrs. Parsons gave a reading on "Points of Interest in Quebec" and Mrs. Sawyer, a talk on her native country New Zealand. *Bury* JWI have started a new project in knitting and crocheting. *Brookbury* distributed material to be made up for the exhibit at the fair next year. A gift was given a new baby and \$2.50 voted the Q.W.I. Service Fund. *Cookshire* heard a talk by Mr. Gage on the local library and Mrs. G. Learned spoke on "Aluminum in B.C." A resumé of the work of the Red Cross was given by Mrs. Barter and the W.I. was thanked for its gifts. Money was voted towards Christmas decorations in the town and \$10 loaned to a pupil to help further her studies. *Canterbury's* debate, "Resolved that country children have better advantages than city children", resulted in a tie. Sunshine money was brought in which will be used for Christmas treats for the children, and a box sent to the Veteran's Hospital, Ste. Annes. *East Angus* donated \$5 to the Red Cross and a sale brought \$9.60. At *East Clifton*, Mrs. Bellam made a Queen Elizabeth cake and sold the recipes for 15 cents each. Donations were made towards the minister's salary, Christmas treats, and UNICEF greeting cards were purchased. *South Newport* packed boxes for two boys in the service. The convenor of Publicity read a paper on that subject. *Scotstown* sent 20 pounds of cotton to the Cancer Clinic and a Christmas parcel was sent to a branch in England.

Gatineau: *Aylmer East* had a tour through the press rooms of the Ottawa Citizen, with explanations about how the paper was made up. The sum of \$10 was voted to Canadian National Institute for the Blind. *Breckenridge* had a film showing by the district agronomist, Mr. Delahye: Beautifying the Farm Home, Planning the Modern Kitchen, Handicrafts of Quebec and Newfoundland Scene. *Eardley* had a paper, "What Do We Expect of Education?" Several contests were enjoyed and money was voted for school prizes. A member from an adjoining branch spoke on her experiences at the ACWW Conference. *Kazabazua* held a special meeting to distribute prizes from the fall fairs. The silver cup donated by the Farmers' Club was won by Alywin School No. 4 and later placed for display in the new Queen Elizabeth School at Kazabazua. At the regular meeting a demonstration on cooking was held and a paper on the same subject read by the convenor of Home Economics. *Lakeview* entertained the county semi-annual. Speakers were the Inspector of Regional Schools and a representative from the Canadian Institute for the Blind. *Rupert* heard an account of the ACWW Conference given by Mrs. Ellard, 2nd Q.W.I. vice-president and a former county president. Members brought jams and jellies for the



The Brome County meeting held at Potton Springs at the home of Mrs. Whittaker, the president of the South Bolton branch.

County Hospital and the sum of \$25 was voted to the same cause. A donation of \$10 was given the Canadian Institute for the Blind, and weekly dances are to be continued. *Wakefield* also had an address by Mrs. Ellard on the ACWW Conference. Under W.I. auspices \$166.85 was collected for the National Institute for the Blind. Four bedside tables are to be purchased for the Gatineau Memorial Hospital. *Wright* catered to the plowing match and cleared \$150 for branch funds. Again we hear of a talk by Mrs. Ellard on the Conference. (A new branch has been organized in this county. We hope its reports will soon appear in this column.)

Missisquoi: *Cowansville* showed a film on landscaping. The Welfare and Health convenor, Mrs. H. Drennan, gave a talk on the youth at St. Vincent de Paul Prison. Cotton for cancer dressings was given the Sweetsburg Hospital. *Dunham's* Welfare and Health Convenor

brought toys to be given needy children at Christmas and gifts were exchanged among the members. *Fordyce* had a reading, "That Was Really Christmas". A box of gifts was sent the Children's Memorial Hospital and \$10 given the local hospital to help with Christmas cheer. *Stanbridge East* bought UNICEF cards and planned Christmas cheer. A dance was held for the Hall Fund.



"A-picknicking we go". Juniors at Stanbridge East have a happy outing.

Pontiac: *Clarendon* had as guest speaker, Mrs. W. J. Murray, who gave a talk on the ACWW Conference. Mrs. W. Kilgour and Mrs. S. Draper won two publicity contests and \$5 was donated the Institute for the Blind. *Elmside* heard a reading, "The Poppy Story". Fruit and vegetables were donated to Shawville Community Hospital and \$15 donated to Bristol Memorial Park. *Shawville* had as guest speaker, Rev. R. G. Elliot, who gave a talk on "History and Geography of Ireland". Mrs. C. Watson gave two vocal selections. *Stark's Corner* observed grandmother's day with nine grandmothers and one great-grandmother present. *Wyman* made donations of food to Shawville Community Hospital. Miss E. M. Edey gave two humorous readings, of "Recipes not found in any book". An overseas parcel was sent and one to a convalescent.



Mrs. H. M. Turner of Shawville sends us this photo of a Pontiac County group. It includes nine grandmothers and one great-grandmother. The picture was taken at Stark's Corner.



Members of the Scotstown W.I. at Mrs. Scarth's cottage at Newport, Vt.

Rouville: *Abbotsford* held a puppet show entitled, "The Night Before Christmas", with the script read by Miss Marshall and Miss Helen Buzzell and her assistants were in charge of the show. Gifts were exchanged and several parcels of cotton sent the Cancer Society.

Shefford: *Granby Hill* sent fruit and books to the sick and a Christmas box to an elderly lady in a home. Many articles were also sent to Friendly Home, Montreal. A.W.I. Christmas party was held in the High School. *Warden* brought gifts to be given to children at Bondville Orphanage. Cheer for the needy and shut-ins was planned and gifts exchanged.

Sherbrooke: *Ascot* held a social evening with husbands and friends attending. The Beatrice Cameron Memorial Scholarship was won by Elizabeth McElrea, who is taking the Teacher's Course at Macdonald College. Several donations are reported; \$25 to Q.W.I. Service Fund, \$10 to McLennan Travelling Library, \$7 to Lennoxville High School for books and \$2 to S.P.C.A. *Belvidere* heard an account of the visit to the annual meeting of the Orleans County Homemakers' Club, at Newport, Vt. Extracts from the Mental Health Bulletin were read by the convenor of Welfare and Health. *Cherry River* had a discussion on "Wife-Savers" and "What Domestic Duty I Would Like a Man To Do". Two films were shown, one on Handicrafts and the other on Cancer. *Lennoxville* has installed fluorescent lights in the Club Room. Mrs. Sterling presented a flag to the Room and Mr. R. Spry, Manager of the Royal Bank, presented a picture of Queen Elizabeth. Congratulations were extended to Mrs. Abercrombie, a member of this branch, upon having received a Coronation Medal. *Milby* held a dance. A dollar per member for the Q.W.I. Service Fund brought \$26, and \$5 per month was voted to Lennoxville High School Cafeteria to pay for one child's lunch.

Stanstead: *Ayer's Cliff* brought gifts for the Children's Memorial Hospital and under the auspices of the W.I. furnishings will be collected for a new home. Mrs.



Wyman delegates at the semi-annual county meeting.

F. A. Johnston told a Christmas story, and plans for shut-ins and the overseas parcel were made. *Beebe* voted \$45 to the Q.W.I. Service Fund, \$25 towards the School Library and \$25 for hot lunches at the school. Over 35 parcels have been sent to the Children's Memorial Hospital and many Christmas baskets to the aged and shut-ins. *Hatley* planned a hot supplement to the school lunch. Christmas gifts were sent to the Children's Memorial Hospital and the branch is paying the insurance for the local Girl Guides. Other donations include \$10 to the local Sunday School for Christmas treats, \$10 to the Town Library, and sums for the Q.W.I. Service Fund and Save the Children. *Minton* had an exchange of gifts among members and filled candy bags for the children. Gifts were sent to shut-ins. *North Hatley* gave \$1 per member to the Q.W.I. Service Fund and \$5 was voted for prizes in Household Science in the School. Plans were made to help with the Community Christmas Tree and \$5 was given to a needy family. *Stanstead North* has as guest speaker the county president, Mrs. E. Woodard. A donation of \$50 was voted to the Home and School Association for hot lunches. *Way's Mills* heard a talk on Stockholm, Sweden, by Mrs. Lemon, a native of that country. A demonstration on smocking was given. Members are contributing to Christmas cheer boxes and \$17 was voted the Q.W.I. Service Fund. Another donation was noted of \$10 to the Community Hall and a travelling library has been ordered.

Easier Ways of Beef Feeding

Beef cattle feeders can save themselves time and make their work a lot easier by following a few labor-saving practices.

Cattle feeding operations vary greatly in volume from farm to farm, but labor saving and efficiency in feeding operations is important for all of them.

The first step in getting the cattle feeding operations on a time—and labor-saving basis is to arrange the food storage, shelter, lots and gates in a convenient manner.

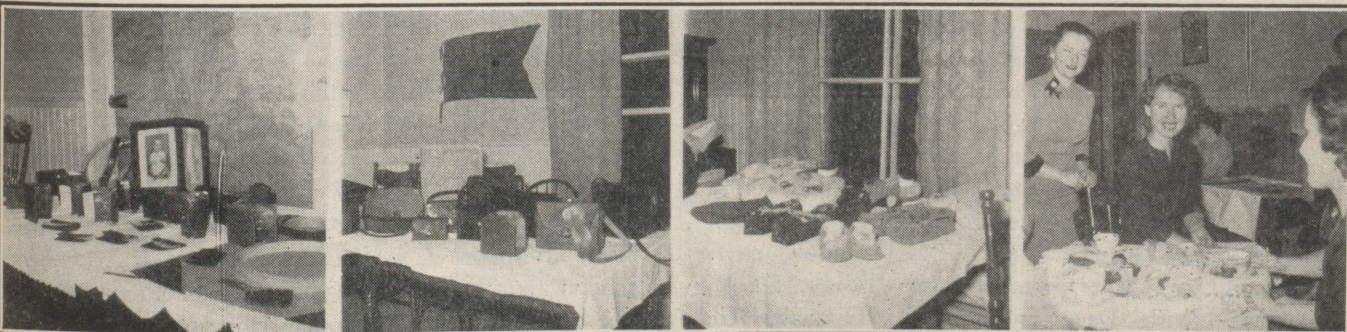
One of the greatest labor savers is the presence of an adequate, convenient, automatic and dependable water supply. Water comes ahead of feed in importance and must be before the cattle at all times.

Hauling rather than carrying feed will save a lot of work. If the number of cattle being fed is small, the feed wagon may serve as a temporary storage bin in the yard. This will eliminate the necessity of hauling feed every day. These wagons should be filled directly from the silo, bins or place of hay storage to save handling.

If cattle are on full feed, large-capacity self-feeders will permit the handling of feed in full loads with a minimum of labor.

Operators feeding a lot of cattle can usually make good and profitable use of elevating, conveying and processing equipment. However, the overhead cost of mechanization makes this impractical for the small feeder.

Again Sherbrooke County has demonstrated how successful a county workshop can be. Classes were held in beginners and advanced leather work, slipper making and rugs, and a total of 26 members attended, coming in from branches around the common centre at Lennoxville. The pictures, taken at the closing exhibit and tea, show something of both the work and the fun of this four week's project. 1 and 2 are leather articles, 3 the slippers and 4 the instructor, Miss Hasel, at the tea-table with some of the members.





THE COLLEGE PAGE

The Macdonald Clam

Notes and News of Staff Members and Former Students

Macdonald Short Course A Big Success

FORTY-SIX students attended the annual Christmas Short Course run by the Adult Education Service at Macdonald College. We ranged in age from our late teens to late seventies. Most of us, however, were in our twenties and thirties, a few of us were over forty and still fewer of us over fifty.

We represented every section of English-speaking Quebec. We hailed from Pontiac, Papineau and Gatineau, from Huntingdon, Brome, Missisquoi, Compton and many other counties. One of us came from as far away as Port Daniel Centre in Bonaventure County, and four of us from Ontario.

What sort of an impression did the course make on us? "Good," we all agreed even though we didn't like everything equally, which is only natural, some preferring one thing to another. At the evaluation session held on the last morning some of us wanted more leadership training while others said, "let's have more agriculture." But we all emphasized again and again how much we had enjoyed the five days, and how it would help us to be better citizens when we got back home to our own communities.

We were welcomed to the College by Dr. W. H. Brittain, vice-principal, and later Prof. H. R. C. Avison, Director of Adult Education at the College, outlined the purpose of the course. He explained how the various parts fitted together and how they were designed to deal with the practical problems of rural communities.

The detailed planning of the course wasn't undertaken until we had all arrived, for the whole purpose behind the course was to help us meet the problems of our communities. It was only logical, therefore, our suggestions should form the basis of the course. We filled all the offices which included electing four presidents, one to serve each day, and four secretaries. The duties of the presidents were to see that everything ran smoothly, to call the various meetings to order, and to get as many people involved as possible.

The four presidents were; Douglas Young, Stanley Qwilliams, Keith Dagg and Shirley Reynolds. The

secretaries who served with them were: Pat Barnum, Arthur Smart, Pat Leach and Ernest Tomuschat. Other committees were formed to include Clean up, Residence and Refreshments.

We worked hard . . .



The morning sessions were given over to discussions on, "What's wrong with your community?" We used skits and small groups to find out why our community organizations weren't functioning in high gear all the time. Then we tried to find out what we might do about these faults, how we could awaken the interest of people in community affairs, and finally we discussed how we might put these ideas into action to make our communities better places in which to live.

Later in the morning we divided into two groups, one to work out the recreation program for the evening and to learn new dances and games to use back home, and the other to discuss some of the problems facing us in agriculture. For instance, we discussed Father and Son agreements, the problems facing the dairy industry, and why we should go in for grassland farming.

Every afternoon we went on a tour, the first one being a general tour of the College. The second took us up to the barns and the third to the Horticulture and deep

freezing departments. Then we all took a session on public speaking, followed by skill sessions in recreation and film projection.

... but we had fun too



Every morning there was a half hour break for recreation and the evening programs were given over entirely to recreation. Film showing followed by a short discussion, a sing song, and square and folk dancing.

Throughout the course we carried through the program and at the final evaluation it was found out that over seventy percent of us had had some part in the program arrangements.

Bud Sports In Apples

The task of creating new varieties of fruits for agricultural purposes never ends. Not only do fashions change, but new problems of disease and insect control are continually being encountered, some of which can be met only by the breeding of varieties resistant to their attack.

One of the recent changes in the fashion parade of the apple has been an increased demand for red colour. Today, housewives are buying these fruit on the basis of their appearance rather than their name or quality. The first demand for a new variety must be the colour of its skin.

Every once in a while Nature comes to the aid of the plant breeder and produces spontaneously a change that is known as a bud sport. This is not only a rare event, but it is an unpredictable one. The unwanted ones are the probable cause of the deterioration through the years of some of the varieties of apples which are not as good today as they were when first introduced. Others, on the other hand, are the basis for improved strains of standard varieties.

Among the best known of the bud sports that have been propagated are such strains as the Crimson Gravenstein, a double sport from the old-fashioned yellow Gravenstein; Richared and Starking Delicious, both red

sports of the older variety Delicious; and Red Spy from Northern Spy. However, there are many others less well known, e.g. Blackmac, Red King, Crimson Cox, Red Melba, and Red Stayman.

Because of the commercial value of these red strains, attempts have been made to produce new sports by artificial means through the use of X-rays. These powerful rays are able to cause changes deep in the cells of the bud which may later show as colour changes in the skin of the apple.

In Canada these experiments have been carried out at the Experimental Station, Kentville, N.S. Beginning in 1949, this experimental method, reports Dr. C. J. Bishop, Superintendent of the Station, has been used there to a greater extent than at any other research centre in the world. While fruit production to date has been quite limited, sectorial changes have been induced by the X-rays which with further technical manipulation may result in commercially useful sports. With further production over the next few years, the possibilities of obtaining a valuable complete sport will be greatly increased.

Cow Numbers Up

Cow numbers are expected to continue higher than they were a year previously throughout the winter; but it appears that they will not be as much greater as they were during the summer period.

"JOE BEAVER"

By Ed Nofziger



Forest Service, U. S. Department of Agriculture

"When all this snow begins to melt, the folks down below will be mighty glad we've kept a good timber and grass cover on this watershed so the water will not run-off too fast."



THE MACDONALD LASSIE